

**APPLICANTS' REQUEST FOR AN INTERFERENCE WITH A PATENT**

**1. Identification of Patent under Rule 607(a)(1)**

Applicants seek an interference between this application and United States Patent No. 5,536,490 to Klaveness et al (hereinafter the '490 patent) which issued on July 16, 1996.

**2. Presentation of a proposed Count Under Rule 607(a)(2)**

For purposes of this rule, the following proposed count is believed to define overlapping, patentably indistinct subject matter between this application and the '490 patent:

Count 1

Microbubbles comprising an amphiphilic phospholipid material capable of formation of gas-containing microbubbles, said microbubbles comprising a physiologically acceptable gas.

**3. Identification of Claims from the '490 Patent that Correspond to the Proposed Count under Rule 607(a)(3)**

Proposed Count	'490 Patent Claims that Correspond to Proposed Count
Count 1	3-5, 17, 19-20

#### 4. Compliance with Rule 607(a)(4)

a. Presentation of New Claims Corresponding to the Proposed Count under Rule 607(a)(4)

Applicants have added new claims 54-56 which are believed to correspond to Count 1, i.e., define patentably indistinct subject matter.

b. Explanation of Why Each Claim Corresponds to the Proposed Count

i) Applicants' Claims Corresponding to Count 1

Claim 54 corresponds exactly to proposed Count 1.

Claims 55 and 56 substantially correspond to Count 1. These claims differ from Count 1 by reciting "fluorine-containing gas" and "freon", respectively, instead of the "physiologically acceptable gas" of Count 1. However, claims 55 and 56 define subsets of Count 1 because both "fluorine-containing gas" and "freon" are subsets of Count 1's "physiologically acceptable gas."

This is demonstrated by Applicants' specification at page 15, lines 22-25 which states that:

"The gases in the microbubbles of the present invention can include, in addition to current innocuous physiologically acceptable gases like CO<sub>2</sub>, nitrogen, N<sub>2</sub>O, methane, butane, freon and mixtures thereof..." (emphasis added).

The gases defined by "fluorine-containing gases" include "freon". *Hawley's Condensed Chemical Dictionary*, Twelfth Edition, Revised by Richard J. Lewis, Sr., Van Nostrand Reinhold Co., New York.

The '490 patent at column 2, lines 29-34 includes a similar definition:

Any biocompatible gas may be employed in the contrast agents of the invention, for example air, nitrogen, oxygen, hydrogen, nitrous oxide, carbon dioxide, helium, argon, sulphur hexafluoride and low molecular weight optionally fluorinated hydrocarbons such as methane, acetylene or carbon tetrafluoride...(emphasis added).

ii. The '490 Claims Corresponding to Count 1

Claim 3 of the '490 patent is the same as Count 1 except for its recitation of sulphur hexafluoride as its physiologically acceptable gas. Applicants submit that for the reasons stated in Section 4, b, i, *supra*, sulphur hexafluoride (SF<sub>6</sub>) recited in certain of the '490 patent claims, e.g., '490 patent claim 3, is an immaterial limitation for purposes of this analysis, i.e., it can be disregarded in evaluating the separate or common patentability of the '490 patent claims and e.g., claims 54-56 of this application. The other claims that correspond to Count 1 of the '490 patent (4-5, 17 and 19-20) relate to specific, patentably indistinct aspects of the microbubbles which are all encompassed by Count 1.

**5. Application of the Terms of Applicants' Claims 54-56 Which Correspond to Proposed Count 1 to Applicants' Specification Under Rule 607(a)(5)**

<u>Claims</u>	<u>Citations to Applicants' Specification (and Parent Application EP 90810262.7 in parentheses)<sup>1</sup></u>
Microbubbles comprising	the suspension of microbubbles according to the invention at p. 6, l. 27-28 (p. 5, l. 26-27)
an amphiphilic phospholipid material	amphipatic compounds...particularly phospholipids at p. 6, l. 4 and 7 (p. 5, l. 15-20)
capable of formation of gas-containing microbubbles	then air or a gas is introduced into the liposome solution so that a suspension of microbubbles will form at p. 6, l. 36-p. 7, l. 1 (p. 5, l. 35-36)
said microbubbles comprising a physiologically acceptable gas (Claim 54); fluorine-containing gas (Claim 55); freon (Claim 56)	the gases in the microbubbles of the present invention can include in addition to current innocuous physiologically acceptable gases like...freon at p. 15, l. 22-24 (p. 14, l. 11-13)

The citations to EP 90810262.7, Applicants' parent application, demonstrate that Applicants are entitled to the benefit of this EP application for claims 54-56.

**6. Explanation of Compliance with 35 U.S.C. § 135(b) Under Rule 607(a)(6)**

This request for an interference complies with 35 U.S.C. § 135(b) because it has been filed on July 15, 1997 which is within one year of the July 16, 1996 issue

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<sup>1</sup> Copies of Schneider et al's foreign application EP 90810262.7, are attached hereto.

date of the '490 patent, and it adds claims that are the same or substantially the same as claims in the '490 patent.

## 7. Other Interfering, Patentably Indistinct Subject Matter

The '490 patent has claims directed to other subject matter which is disclosed and claimed in Applicants' application. The table below summarizes the patentably indistinct subject matter:

<u>'490 Claimed Subject matter</u>	<u>'490 Claims</u>	<u>Applicants' Claims</u>	<u>Support for Applicants' Claims in Applicants' Specification (and Parent Application EP90810262.7 in parentheses)</u>
Aqueous dispersion	6-8	10-19	See chart on page 4 herein and aqueous dispersion at pp. 1, 5-6, 13-14, specific phospholipid and additives at pp. 9-11, and microbubble concentration at pp. 12-14 of the disclosure (pp. 1, 4-6, 9-13)
Process for preparing a contrast agent	29-32	20-24	See chart on page 4 herein and process variables at pp. 1, 5-13 of the disclosure (pp. 1, 4-14)
Contrast Agent prepared by a process	38	25	See chart on page 4 herein and contrast agent at pp. 1, 14-15 and the examples of the disclosure pp. 1, 13-14 (p.1 and examples)
Method of enhancing images of vascular system	40	26	See chart on page 4 herein and method of enhancing at pp. 1, 14-15 and the examples of the disclosure (p. 1 and examples)

The citations to EP 90810262.7, Applicants' parent application, demonstrate that Applicants are entitled to the benefit of this EP application for claims 10-26.

Four counts directed to this subject matter should be '490 claims 6, 29, 38 and 40, respectively, (1) written in independent claim form, and (2) with "physiologically acceptable gas" substituted for "sulphur hexafluoride". The counts would encompass all of the subject matter of the '490 claims and Applicants' claims which are identified above -- the differences between the claims and these counts are all recitations of more specific, patentably indistinct, elements of the counts. For example, the sulphur hexafluoride of the '490 claims is patentably indistinct from the physiologically acceptable gas of the counts (see discussion *supra* regarding proposed Count 1). Section 135(b) is complied with for these new counts and claims for the reasons stated in Section 6, *supra*.

Please examine this application and act on this amendment with special dispatch as provided by 37 C.F.R. 1.607(b).

SCHNEIDER et al  
Serial No. to be assigned

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By: 

Leonard C. Mitchard Reg. No. 29,009  
for Arthur R. Crawford  
Reg. No. 25,327

1100 North Glebe Road, 8th Floor  
Arlington, VA 22201-4714  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100

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